

Amendments to the Claims:

Claims 1-37(cancelled).

Claim 38 (new): A radio frequency identification (RFID) label comprising:
a first flexible material layer having substantially uniform thickness;
a single integrated circuit (IC) comprising memory configured to store an identification number and a transceiver configured to receive an interrogation signal and to provide the identification number in response to the interrogation signal;
an antenna coupled to the IC; and
a second flexible material layer having substantially uniform thickness coupled directly to the first layer in at least a portion of a region surrounding the IC and the antenna to form a flexible enclosure, wherein the IC and the antenna are disposed between the first and second layers.

Claim 39 (new): The RFID label of claim 38, wherein the first layer comprises an adhesive to affix the label to a surface of an article.

Claim 40 (new): The RFID label of claim 39, wherein the second layer comprises text printed on a surface of the second layer.

Claim 41 (new): The RFID label of claim 40, wherein the antenna is a dipole antenna formed on the first layer.

Claim 42 (new): The RFID label of claim 41, wherein the antenna comprises a printed conductive material.

Claim 43 (new): The RFID label of claim 41, wherein the IC includes circuitry disposed on a surface of the IC facing the first layer.

Claim 44 (new): The RFID label of claim 41, wherein a distance between opposing surfaces of the first and second layers is less than 10 mils throughout the enclosure.

Claim 45 (new): The RFID label of claim 41, wherein a thickness of at least a portion of the label is within a range of one to five mils.

Claim 46 (new): The RFID label of claim 41, wherein the interrogation signal is a spread spectrum signal.

Claim 47 (new): The RFID label of claim 41, further comprising a stiffener material disposed between the IC and the second layer.

Claim 48 (new): The RFID label of claim 38, further comprising a first battery disposed between the first and second layers, the first battery being flexible and rectangular.

Claim 49 (new): The RFID label of claim 48, further comprising a second battery coupled in series with the first battery and disposed between the first and second layers, the second battery being flexible and rectangular.

Claim 50 (new): The RFID label of claim 48, wherein the first battery is rechargeable.

Claim 51 (new): The RFID label of claim 48, wherein the IC further comprises a sleep/wake-up circuit to bring the IC out of a sleep mode.

Claim 52 (new): The RFID label of claim 38, wherein the flexible enclosure is hermetically sealed.

Claim 53 (new): A radio frequency identification (RFID) label comprising:

- a first flexible film having substantially uniform thickness;
- a dipole antenna formed on the first film;
- a single integrated circuit (IC) coupled to the antenna and comprising memory configured to store an identification number and a transceiver configured to receive a spread spectrum interrogation signal and to provide the identification number in response to the signal; and
- a second flexible film having substantially uniform thickness sealed directly to the first film along at least a portion of a boundary that surrounds the IC and the antenna to form a flexible package, wherein the IC and the antenna are disposed between opposing surfaces of the first and second films in a substantially two dimensional planar configuration.

Claim 54 (new): The RFID label of claim 53, wherein the second film comprises text printed on a surface of the second film.

Claim 55 (new): The RFID label of claim 53, wherein the first film comprises an adhesive to affix the device to an article to track the article.

Claim 56 (new): The RFID label of claim 53, wherein the antenna comprises a printed conductive material.

Claim 57 (new): The RFID label of claim 53, wherein the IC includes circuitry disposed on a surface of the IC facing the first film.

Claim 58 (new): The RFID label of claim 53, wherein a distance between the opposing surfaces is less than 10 mils throughout the package.

Claim 59 (new): The RFID label of claim 58, wherein a thickness of at least a portion of the label is within a range of one to five mils.

Claim 60 (new): The RFID label of claim 53, further comprising a stiffener material disposed between the IC and the second film.

Claim 61 (new): The RFID label of claim 53, wherein the first film is transparent.

Claim 62 (new): The RFID label of claim 53, wherein the second film is sealed directly to the first film along an entire boundary that surrounds the IC and the antenna.

Claim 63 (new): The RFID label of claim 62, wherein the package is hermetically sealed.

Claim 64 (new): The RFID label of claim 62, wherein the boundary is an outer boundary.

Claim 65 (new): A radio frequency identification (RFID) device comprising:

- a first flexible film having substantially uniform thickness;

- a dipole antenna formed on the first film;

- a single integrated circuit (IC) coupled to the antenna and comprising memory configured to store an identification number and a transceiver configured to receive an interrogation signal and to provide the identification number in response to the signal; and

- a second flexible film having substantially uniform thickness sealed directly to the first film at least along an outer boundary of the first film to form a flexible label that includes the IC and the antenna.

Claim 66 (new): The RFID device of claim 65, wherein the second film comprises text printed on a surface of the second film.

Claim 67 (new): The RFID device of claim 66, wherein the first film comprises an adhesive to affix the device to a surface of an article.

Claim 68 (new): The RFID device of claim 66, wherein the antenna comprises a printed conductive material.

Claim 69 (new): The RFID device of claim 66, wherein the IC includes circuitry disposed on a surface of the IC facing the first film.

Claim 70 (new): The RFID device of claim 65, wherein the interrogation signal is a spread spectrum signal.

Claim 71 (new): The RFID device of claim 65, wherein the IC and the antenna are disposed between opposing surfaces of the first and second films.

Claim 72 (new): The RFID device of claim 71, wherein the outer boundary surrounds the IC and antenna.

Claim 73 (new): A radio frequency identification (RFID) device comprising:

a first flexible material layer having substantially uniform thickness and a boundary region;

a dipole antenna formed on the first layer;

a single integrated circuit (IC) coupled to the antenna and comprising memory and a transceiver configured to receive an interrogation signal and to provide a response; and

a second flexible material layer having substantially uniform thickness and comprising text printed on a first surface of the second layer, wherein a second surface of the second layer is coupled directly to at least the boundary region of the first layer to form a flexible label that includes the IC and the antenna, and wherein the IC and the antenna are disposed in a substantially two dimensional planar configuration.

Claim 74 (new): The RFID device of claim 73, wherein the first layer comprises an adhesive to affix the device to an article to track the article.

Claim 75 (new): The RFID device of claim 73, wherein the IC includes circuitry disposed on a surface of the IC facing the first layer.

Claim 76 (new): The RFID device of claim 75, wherein the boundary region is an outer boundary, the outer boundary surrounds the IC and antenna, and the IC and the antenna are disposed between opposing surfaces of the first and second layers.

Claim 77 (new): The RFID device of claim 73, wherein the first layer and second layer comprise the same material.

Claim 78 (new): The RFID device of claim 77, wherein a single sheet of the material is folded over to form the first layer and the second layer.

Claim 79 (new): The RFID device of claim 73, wherein a distance between opposing surfaces of the first and second layers is less than 10 mils throughout the device.

Claim 80 (new): The RFID device of claim 73, wherein a thickness of at least a portion of the device is within a range of one to five mils.

Claim 81 (new): The RFID device of claim 73, further comprising a stiffener material disposed between the IC and the second surface of the second layer.

Claim 82 (new): The RFID device of claim 73, wherein the interrogation signal is a spread spectrum signal.

Claim 83 (new): A system, comprising:

an article;

a radio frequency identification (RFID) device affixed to the article, the RFID device including a dipole antenna, a single integrated circuit (IC) storing an identification number that identifies the article, and two flexible films, each of substantially uniform thickness, sealed directly together along at least a boundary to form a flexible label that includes the IC and the antenna; and

an interrogator configured to charge and interrogate the RFID device to determine the identification number in accordance with tracking the article.

Claim 84 (new): The system of claim 83, wherein the RFID device comprises an adhesive to affix the device to the article.

Claim 85 (new): The system of claim 83, wherein the RFID device comprises text printed on a surface of the RFID device.

Claim 86 (new): The system of claim 85, wherein the IC includes circuitry disposed on a surface of the IC facing the antenna.

Claim 87 (new): The system of claim 86, wherein the boundary surrounds the IC and antenna, and the IC and the antenna are disposed between opposing surfaces of the two films.

Claim 88 (new): The system of claim 87, wherein a distance between opposing surfaces of the two films is less than 10 mils throughout the RFID device.

Claim 89 (new): The system of claim 88, wherein a thickness of at least a portion of the RFID device is within a range of one to five mils.

Claim 90 (new): The system of claim 83, wherein the RFID device further comprises a stiffener material disposed over the IC of the RFID device.

Claim 91 (new): The system of claim 83, wherein the interrogator is configured to interrogate the RFID device using a spread spectrum signal.

Claim 92 (new): A system, comprising:

a plurality of articles;

a plurality of radio frequency identification (RFID) devices, each RFID device attached to a respective article and including a dipole antenna, a single integrated circuit (IC) storing an identification number that identifies the respective article, and two flexible films, each of substantially uniform thickness, sealed directly together along at least a boundary to form a flexible label that includes the IC and the antenna disposed in a substantially two dimensional planar configuration; and

an interrogator configured to charge and interrogate, using spread spectrum signals, the plurality of RFID devices to determine each identification number that identifies each respective article in accordance with tracking the plurality of articles.

Claim 93 (new): The system of claim 92, wherein each RFID device comprises a respective adhesive layer that attaches the respective RFID device to the respective article.

Claim 94 (new): The system of claim 93, wherein each RFID device comprises respective text printed on a respective surface of the RFID device.

Claim 95 (new): A system, comprising:

first and second articles;

a first radio frequency identification (RFID) device affixed to the first article, the first RFID device including a first dipole antenna, a first single integrated circuit (IC) storing a first identification number that identifies the first article, and two first flexible films, each of substantially uniform thickness, sealed directly together along at least a first boundary to form a flexible label that includes the first IC and the first antenna, wherein the first IC and the first antenna are disposed in a substantially two dimensional planar configuration;

a second radio frequency identification (RFID) device affixed to the second article, the second RFID device including a second dipole antenna, a second single integrated circuit (IC) storing a second identification number that identifies the second article, and two second flexible films, each of substantially uniform thickness, sealed directly together along at least a second boundary to form a flexible label that includes the second IC and the second antenna, wherein the second IC and the second antenna are disposed in a substantially two dimensional planar configuration; and

an interrogator configured to charge and interrogate, using spread spectrum signals, the first and second RFID devices to determine the first and second identification numbers that identify the first and second articles, respectively, in accordance with a process of tracking the first and second articles.

Claim 96 (new): The system of claim 95, wherein the first and second boundaries of the first and second RFID devices, respectively, surround the respective IC and antenna, and the respective IC and antenna are disposed between respective opposing surfaces of the respective two films.

Claim 97 (new): The system of claim 95, wherein stiffener material is disposed over the first and second ICs.

Claim 98 (new): A system, comprising:

an article;

a radio frequency identification (RFID) device affixed to the article, the RFID device including a dipole antenna formed on a first flexible film of substantially uniform thickness and having a boundary, a single integrated circuit (IC) storing an identification number that identifies the article, and a second flexible film of substantially uniform thickness and comprising printed text sealed directly to the first film along the boundary to form a flexible label that includes the IC and the antenna; and

a plurality of interrogators, each configured to charge and interrogate the RFID device using spread spectrum signals to determine the identification number in accordance with tracking the article.

Claim 99 (new): The system of claim 98, wherein the plurality of interrogators includes at least three interrogators, a first interrogator at a point of origin, a second interrogator at a point along a shipment route, and a third interrogator at a point of destination of the article.

Claim 100 (new): The system of claim 98, wherein the first film of the RFID device comprises an adhesive to affix the RFID device to the article.

Claim 101 (new): The system of claim 98, wherein the IC includes circuitry disposed on a surface of the IC facing the first film.

Claim 102 (new): The system of claim 98, wherein the IC and the antenna are disposed between opposing surfaces of the first and second films.

Claim 103 (new): The system of claim 102, wherein the boundary surrounds the IC and antenna.

Claim 104 (new): The system of claim 98, wherein the RFID device further comprises a stiffener material disposed over the IC of the RFID device.

Claim 105 (new): A system, comprising:

an article;

a radio frequency identification (RFID) device attached to the article, the RFID device including a dipole antenna, a single integrated circuit (IC) comprising memory and a transceiver, and two flexible films, each of substantially uniform thickness, sealed directly together along a region to form a flexible label that includes the IC and the antenna, wherein the IC and the antenna are disposed in a substantially two dimensional planar configuration;

a first interrogator configured to charge the RFID device and store an identification number that identifies the article in the memory of the RFID device using spread spectrum; and

a second interrogator configured to charge the RFID device and read the identification number stored in the RFID device using spread spectrum in accordance with tracking the article.

Claim 106 (new): The system of claim 105, wherein the IC includes circuitry disposed on a surface of the IC facing the antenna.

Claim 107 (new): The system of claim 106, wherein the region is a boundary surrounding the IC and antenna, and the IC and the antenna are disposed between opposing surfaces of the two films.

Claim 108 (new): The system of claim 105, wherein the region is a boundary surrounding the IC and antenna, and the IC and the antenna are disposed between opposing surfaces of the two films.

Claim 109 (new): The system of claim 105, wherein the RFID device comprises an adhesive to affix the device to the article.

Claim 110 (new): The system of claim 106, wherein the RFID device comprises an adhesive to affix the device to the article.

Claim 111 (new): The system of claim 105, wherein the RFID device further comprises a stiffener material disposed over the IC of the RFID device.

Claim 112 (new): The system of claim 106, wherein the RFID device further comprises a stiffener material disposed over the IC of the RFID device.